

REMARKS

These remarks are in response to the Office Action mailed August 19, 2004. Enclosed herewith is a Petition requesting a three-month extension of time for resetting the deadline for responding to the Office Action from August 19, 2004 to and including February 19, 2005.

As an initial matter, as noted in the Office Action at page 6, Applicant acknowledges and appreciates that claims 6 and 7, although objected to for depending upon a rejected base claim, have been deemed by the Examiner to include patentable subject matter and would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. In response to this rejection, Applicant has amended claim 6 so as to appear in independent form including all the limitations of the base claim and any intervening base claim. Additionally, claim 7 depends from claim 6. Therefore, Applicant asserts that claims 6 and 7 are in condition for allowance and should be deemed patentable.

In response to the comments in the Office Action concerning the cross-reference, it is noted that this application was not as referred to in the Office Action, and has always included the necessary reference to prior application 09/916,554. That cross-reference has now been amended to refer to U.S. Patent No. 6,678,952 B2, issued on the '554 application.

Additionally, in the Office Action, the Examiner asserted that the title of the invention is not descriptive and a new title is required that is clearly indicative of the invention to which the claims are directed. In response to this, Applicant has adopted the suggested language of the Examiner and amended the title of the present application to: --METHOD OF MAKING A MICROELECTRONIC PACKAGE--.

In the Office Action, claims 1 and 2 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Specifically, the Examiner noted that the phrase "the bottom conductive features" (claim 1, lns. 10-11) lacks an antecedent basis. In response to this rejection, Applicant has amended claim 1 so as to provide the correct antecedent basis for all the elements of the claim. No new matter has been added by this amendment.

In the Office Action, claims 1 and 2 are rejected under 35 U.S.C. § 102(a) as being anticipated by Haba et al. U.S. Patent No. 6,200,134 ("*Haba*"). In response to this rejection, Applicant has cancelled claim 2 and included the recitation previously included in claim 2 in amended claim 1. The added recitation in claim 1 is specifically directed to "depositing electrically conductive material in the vias without seeding the vias." Applicant respectfully asserts that *Haba* does not teach such a step. As stated in the Office Action, the Examiner contends that *Haba* discloses the step of depositing electrically-conductive material in the vias without seeding the vias (col. 11, lns. 8-10). However, a closer look at the text of *Haba* illustrates that it is not the seeding which may be eliminated during electroplating of the metal layer but rather the entire process of seeding and plating the ribs which support the tabs or tines 146, which may be omitted. Thus, *Haba* discloses either seeding and plating the ribs which support the tabs or tines or simply leaving the ribs barren of a metal layer. In contrast, newly-amended claim 1 of the present invention specifically includes depositing electrically conductive material in the vias without seeding. Applicants therefore request reconsideration and allowance of claim 1 of the present application.

In the Office Action, claims 3-5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Haba* in view of *Appelt et al.* U.S. Patent No. 6,222,136 ("*Appelt*"). The Examiner essentially contends that *Haba* discloses all of the recitations included within claims 3-5, except that the Examiner acknowledges that *Haba* does not disclose applying a resist to the surface of the top and bottom metal layers and patterning the resist layers to form openings in the resist layers, the openings leaving uncovered portions of the metal layers surrounding the vias, thereby forming conductive features on the top and bottom metal layers. However, the Examiner contends that *Appelt* does teach these limitations and further contends that it would have been obvious to one having ordinary skill in the art at the time the present invention was made to modify *Haba* with the steps as taught by *Appelt* to render claims 3-5 of the present application obvious and unpatentable.

Claim 3, as originally filed and as now amended, includes the recitation wherein the top conductive and bottom conductive features are electrically interconnected by "depositing electrically conductive material in the vias without seeding the vias." As previously argued above with reference to claim 1, *Haba* does not teach such a recitation. Additionally, *Appelt* which is cited for teaching various steps in conjunction with the resist material, also does not teach such a recitation.

Appelt discloses that after through-holes are drilled and cleaned, the entire circuit board is treated with a colloidal seed and then electrolessly plated with a thin-metal layer (col. 6, lns. 59-61). Manifestly, *Appelt* seeds the vias. On this record, there is no reason to believe that *Appelt's* treatment of the "entire" circuit board does not include the vias. Indeed, *Appelt* teaches away from depositing electrically conductive material in the vias without seeding. Insofar as is apparent on this record, one cannot electrically plate a thin

metal layer in the vias as contemplated by Appelt without previously seeding the vias. Applicants, thus, assert that claim 3 of the present application is in condition for allowance and should be deemed patentable. Additionally, claims 4 and 5 depend from claim 3 and, therefore, include all the recitations included in the claims from which they depend. Therefore, claims 4 and 5 of the present application should also be deemed to contain patentable subject matter.

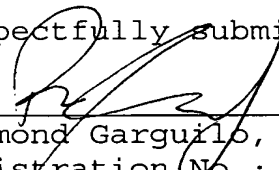
As it is believed that all of the rejections set forth in the Office Action have been fully met, favorable reconsideration and allowance are earnestly solicited.

If, however, for any reason the Examiner does not believe that such action can be taken at this time, it is respectfully requested that the Examiner telephone Applicant's attorney at (908) 654-5000 in order to overcome any additional objections which he might have.

If there are any additional charges in connection with this requested amendment, the Examiner is authorized to charge Deposit Account No. 12-1095 therefor.

Dated: February 18, 2005

Respectfully submitted,

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